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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

J&J Reference: **DEP0486USNP**

MMB Docket No. **1671-0099**

Confirmation No. **5677**

In re patent application of: **Lester et al.**

Examiner: **Christopher D. Prone**

Application No. **09/678,032**

Group Art Unit: **3738**

Filed: **October 3, 2000**

Title: **ACETABULAR CUP AND REAMER ASSEMBLY AND ASSOCIATED
METHOD FOR SECURING THE CUP TO AN ACETABULUM**

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Signature

July 29, 2008
Date of Signature

LETTER

Sir:

Enclosed is an Appeal Brief in connection with the above-identified patent application. The Notice of Appeal was filed on May 29, 2008, and the Appeal Brief is due two months from this date. Thus, this Appeal Brief is being timely filed on July 29, 2008. Also enclosed herewith is a check for \$510.00 to cover the required fee.

Additionally, please provide any extensions of time which may be necessary and charge any fees which may be due to Account No. 13-0014, but not to include any payment of issue fees.

Respectfully submitted,

MAGINOT, MOORE & BECK LLP

/Paul J. Maginot/

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July 29, 2008
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Securing the Cup to an Acetabulum**

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THIRD APPEAL BRIEF

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Sir:

This is an appeal to the Board of Patent Appeals and Interferences of the
United States Patent and Trademark Office from the rejection of the claims 38-

44 of the above-identified patent application. These claims were rejected in an Office Action dated January 29, 2008. This brief is being filed together with the \$510.00 fee required under 37 CFR § 1.17. Also, please provide any extensions of time that may be necessary and charge any fees that may be due to Deposit Account No. 13-0014, but not to include any payment of issue fees.

(1) REAL PARTY IN INTEREST

DePuy Orthopaedics, Inc. of Warsaw, Indiana is the assignee of this patent application, and the real party in interest.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this patent application (serial no. 09/678,032).

(3) STATUS OF CLAIMS

Claims 38-44 are pending in the application.

Claims 38-44 stand rejected.

Claims 38-44 are being appealed.

Each of claims 38-44 is shown in the Claim Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Appellants have filed no amendments subsequent to the rejection contained in the Office Action mailed January 29, 2008.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

An aspect of Appellants' invention relates to a method of securing an acetabular cup to an acetabulum. In particular, the method includes reaming a hemispherically-shaped cavity 52 into an acetabulum 16 of a patient. (See, e.g., Appellants' specification at page 13, line 13 through page 14, line 2, and Figs. 3-4.) The method further includes press fitting the acetabular cup 12 into the cavity 52. (See, e.g., Appellants' specification at page 15, lines 6-8, and Fig. 5.) The particular configuration of the cup 12 that is press fit into the cavity 52 is as follows. The acetabular cup 12 includes a cup body 24 defining an apex portion 28, an upper rim 30 and an outer surface extending therebetween. (See, e.g., Appellants' specification at page 11, lines 10-16, and Figs. 1-2.) An imaginary hemisphere 32 defines a great circle 36 lying in a first plane P1. (See, e.g., Appellants' specification at page 11, lines 17-19, and Fig. 2 that was amended in Appellants' Amendment filed January 16, 2003.) The cup body 24 is further configured such that when the imaginary hemisphere 32 is superimposed over the cup body 24, the upper rim 30 lies in a second plane P2 that is spaced apart from the first plane P1 by a distance D, wherein $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$. (See, e.g., Appellants' specification at page 11, line 16 through page 12, line 7, and page 12, line 17 through page 13, line 2, and Fig. 2 that was

amended in Appellants' Amendment filed January 16, 2003.) The cup body 24 is further configured such that when the imaginary hemisphere 32 is superimposed over the cup body 24, the outer surface of the cup body 24 lies coincident with the imaginary hemisphere 32 from the apex portion 28 to the second plane P2. (See, e.g., Appellants' specification at page 12, line 17 through page 13, line 12, and Fig. 2 that was amended in Appellants' Amendment filed January 16, 2003, and further page 11, line 16 through page 12, line 16.)

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 38-44 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bateman et al. (U.S. Patent No. 5,879,404), in view of Ries et al. (U.S. Patent No. 5,782,928), and further in view of Amstutz et al. (U.S. Patent No. 4,123,806).

(7) ARGUMENT

Claims 38-44 are not obvious over a combination of Bateman, Ries, and Amstutz

Claims 38-44 were rejected under 35 U.S.C. § 103 as being unpatentable over Bateman et al. (U.S. Patent No. 5,879,404) in view of Ries et al. (U.S. Patent No. 5,782,928) and further in view of Amstutz et al. (U.S. Patent No. 4,123,806). Reconsideration of these claims is respectfully requested.

Discussion Re: Patentability of Claim 38

Claim 38

Claim 38 recites, inter alia, the following:

press fitting said acetabular cup into said cavity, wherein (i) said acetabular cup including a cup body defining an apex portion, an upper rim and an outer surface extending therebetween, (ii) an imaginary hemisphere defines a great circle lying in a first plane P1, (iii) said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D, (iii) $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and (iv) *said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.* (Emphasis added).

Presumably, the Examiner's proposed combination is to take Bateman's acetabular cup (e.g. shown in its Fig. 4) and modify it so that the cup is less than hemispherical by between 0.5 millimeters and 2.0 millimeters as allegedly taught by Amstutz, and then press fit the modified, sub-hemispherical cup into a true hemispherically-shaped cavity that was reamed into an acetabulum as allegedly taught by Ries. Presumably, the rationale for one skilled in the art to combine

Bateman, Amstutz, and Ries in the manner identified above is “to provide a secure fit and prevent impingement of the cup.”

Ries Does Not Teach Press Fitting Sub-Hemispherical-Shaped Cup in Hemispherical Cavity

One skilled in the art reading Ries would be guided to press fit a *torodial* shaped cup, not a *sub-hemispherical-shaped cup*, into a hemispherical-shaped reamed cavity. Indeed, the configuration of Ries’ cup 10 possesses a very specific and unique shape, i.e. a toroid shape (see, e.g., Ries’ cup 10 at Figs. 2 and 3). And Ries teaches that its very specific and unique shaped cup, i.e., its toroid shaped cup, will properly form an interference fit with a hemispherically shaped socket. (See Ries at column 4, lines 55-58.)

At best, one skilled in the art would be guided to modify Bateman’s acetabular cup to possess the *torodial* shape as taught by Ries, and then press fit Bateman’s now *torodial-shaped* cup into a true hemispherically-shaped cavity that was reamed into an acetabulum. However, this is not Appellants’ claimed invention, and further it has significant disadvantages in comparison Appellants’ claimed invention. Significantly, press fitting such a torodial shaped cup into a true hemispherically reamed cavity would tend to create an air gap between the cup and bone. Such gap would occur near the geometric transition points on the outer surface of the cup (see e.g., locations 64, 65 in Fig. 2 of Ries). In contrast, due to the geometry of Appellants’ claimed cup and reamed cavity, the claimed method results in a continuously flush contact between cup and bone from the

cup apex to the cup rim on the entire outer surface of the cup. This would result in enhanced ingrowth of the bone cavity wall into the outer surface of the cup.

Accordingly, a prima facie case of obviousness under 35 U.S.C. § 103 has not been established with regard to claim 38 based on the proposed combination of Bateman, Amstutz, and Ries. Therefore, the Board of Appeals is respectfully requested to reverse the rejection of claim 38.

Discussion Re: Patentability of Claims 39-44

Each of claims 39-44 depends directly or indirectly from claim 38. As a result, each of claims 39-44 is allowable for, at least, the reasons hereinbefore discussed with regard to claim 38.

CONCLUSION

Claims 38-44 are not unpatentable under 35 U.S.C. § 103 over Bateman et al. (U.S. Patent No. 5,879,404), in view of Ries et al. (U.S. Patent No. 5,782,928), and further in view of Amstutz et al. (U.S. Patent No. 4,123,806), and the Board of Appeals is respectfully requested to reverse this rejection.

Respectfully submitted,

MAGINOT, MOORE & BECK LLP

/Paul J. Maginot/

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July 29, 2008

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(8) CLAIM APPENDIX

38. A method of securing an acetabular cup to an acetabulum, comprising the steps of:

reaming a hemispherically-shaped cavity into said acetabulum; and
press fitting said acetabular cup into said cavity, wherein (i) said acetabular cup including a cup body defining an apex portion, an upper rim and an outer surface extending therebetween, (ii) an imaginary hemisphere defines a great circle lying in a first plane P1, (iii) said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D, (iii) $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and (iv) said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

39. The method of claim 38, wherein D is approximately one (1) millimeter.

40. The method of claim 38, wherein:

said reaming step includes the step of reaming said hemispherically-shaped cavity into said acetabulum with a reamer having a hemispherically-shaped cutting head that possesses a first radius,

said reaming step further includes the step of reaming said acetabulum such that said cavity possesses said first radius,

said imaginary hemisphere possesses a second radius, and

said second radius is greater than said first radius.

41. The method of claim 40, wherein said second radius is between one-half ($\frac{1}{2}$) and one and one-half ($1\frac{1}{2}$) millimeters greater than said first radius.

42. The method of claim 40, wherein said second radius is approximately two (2) millimeters greater than said first radius.

43. The method of claim 40, further comprising the step of positioning a bearing insert into said acetabular cup, wherein said bearing insert is configured to mate with a head portion of a femur.

44. The method of claim 38, wherein said press fitting step includes the step of advancing said acetabular cup into said cavity reamed in said acetabulum until said upper rim is substantially flush with a surface of said acetabulum.

(9) EVIDENCE APPENDIX

None

(10) RELATED PROCEEDINGS APPENDIX

None.